

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method of sending first and second signals to a plurality of user equipments, the method comprising :

providing a dedicated channel for each one of the plurality of user equipments,
providing a code-multiplexed shared channel for the plurality of user equipments,
splitting the plurality of user equipments substantially evenly into a plurality of groups,
assigning an antenna of a set of antennas to each of the plurality of groups,

sending, in a first time interval, one of the first signals to one of the plurality of user equipments on one of the dedicated channels on a carrier frequency by applying transmit diversity and simultaneously sending one of the second signals to the one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency by applying multi-user diversity through an antenna assigned to a group among the plurality of groups which includes the one of the plurality of user equipments, and

sending, in a second time interval consecutive to the first time interval, another of the second signals to the one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency by applying multi-user diversity through the antenna assigned to the group which includes the one of the plurality of user equipments.

2. (previously presented): The method of claim 1, wherein the dedicated channel is a DPCCH type channel and the code-multiplexed shared channel is a HS-DSCH type channel of a HSDPA type system.

3. (previously presented) The method of claim 1, further comprising:

- assigning a carrier frequency of a set of at least first and second carrier frequencies to each one of the dedicated channels,
- assigning a carrier frequency of the set of carrier frequencies to each one of the plurality of user equipments.

4. (original) The method of claim 3, further comprising applying transmit diversity for sending of the one of the second signals.

5. (previously presented) The method of claim 4, wherein closed loop transmit diversity is applied.

6. (currently amended): A computer readable recording medium having tangibly stored thereon a computer program for enabling a computer to control a sending of first and second signals to a plurality of user equipments, the program comprising:

- providing of a dedicated channel for each one of the plurality of user equipments,
- providing of a code-multiplexed shared channel for the plurality of user equipments,

splitting the plurality of user equipments substantially evenly into a plurality of groups,
assigning ~~of~~ an antenna of a set of antennas to each of the plurality of groups,
sending, in a first time interval, ~~of~~ one of the first signals to one of the plurality of user equipments on one of the dedicated channels on a carrier frequency by applying transmit diversity and simultaneously sending one of the second signals to one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency by applying multi-user diversity through an antenna assigned to a group among the plurality of groups which includes the one of the plurality of user equipments, and
sending, in a second time interval consecutive to the first time interval, another of the second signals to the one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency by applying multi-user diversity through the antenna assigned to the group which includes the one of the plurality of user equipments.

7. (currently amended): A transmitter which sends first and second signals to a plurality of user equipments, the transmitter comprising:

a first component which provides a dedicated channel for each one of the plurality of user equipments,

a second component which provides a code-multiplexed shared channel to the plurality of user equipments,

a third component which splits the plurality of user equipments substantially evenly into a plurality of groups,

a fourth component which assigns an antenna of a set of antennas to each of the plurality of groups,

a fifth component which sends one of the first signals to one of the plurality of user equipments on one of the dedicated channels on a carrier frequency by applying transmit diversity,

a sixth component which sends one of the second signals to the one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency by applying multi-user diversity,

wherein the fifth component sends the one of the first signals in a first time interval simultaneous to the sixth component sending the one of the second signals through an antenna assigned to a group among the plurality of groups which includes the one of the plurality of user equipments,

wherein the sixth component sends, in a second time interval consecutive to the first time interval, another of the second signals to the one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency by applying multi-user diversity through the antenna assigned to the group which includes the one of the plurality of user equipments.

8. (previously presented): The transmitter of claim 7 further comprising scheduler which provides the multi-user diversity.

9. (previously presented): The transmitter of claim 7 further comprising:

means for assigning a carrier frequency of a set of at least first and second carrier frequencies to each one of the dedicated channels,

means for assigning of a carrier frequency of a set of carrier frequencies to each one of the user equipments.

10. (currently amended): A telecommunication system for sending first and second signals to a plurality of user equipments, the telecommunication system comprising:

a first component which provides a dedicated channel for each one of the plurality of user equipments,

a second component which provides a code-multiplexed shared channel for the plurality of user equipments,

a third component which splits the plurality of user equipments substantially evenly into a plurality of groups,

a fourth component which provides an antenna of a set of antennas to each one of the plurality of groups,

a fifth component which provides one of the first signals to one of the plurality of user equipments on one of the dedicated channels on a carrier frequency by applying transmit diversity,

a sixth component which provides one of the second signals to the one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency by applying multi-user diversity,

wherein the fifth component provides the one of the first signals in a first time interval simultaneous to the sixth component providing the one of the second signals through an antenna assigned to a group among the plurality of groups which includes the one of the plurality of user equipments,

wherein the sixth component sends, in a second time interval consecutive to the first time interval, another of the second signals to the one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency by applying multi-user diversity through the antenna assigned to the group which includes the one of the plurality of user equipments.

11. (canceled).